IN THE CLAIMS:

Claims 1-19 (Canceled)

20.   (New) A connection admission control method for use in a communication network including multiple links comprising:

determining the bandwidth needed, for each link, for a requested communication connection;

determining the maximum additional spare bandwidth needed, for each link, for rerouting the requested communication connection in addition to the spare bandwidth needed for rerouting all existing communication connections including the additional traffic rerouted and the traffic removed in the event of a single link failure;

comparing the sum of the bandwidth needed for the requested communication connection and the maximum additional spare bandwidth for the requested communication connection with the available bandwidth for each of the links; and

accepting the communication connection request if sufficient available bandwidth exists for each of the links.

21.   (New) A method as in claim 20 where the communication network is configured using a self-healing ring architecture.

22.   (New) A method as in claim 21 where the self-healing ring employs one of 1:1 path switching, 1:1 line switching, or 1+1 path switching.

23.   (New) A method as in claim 20 where the accepted communication connection comprises a simplex communication.

24.   (New) A method as in claim 20 where the accepted communication connection comprises a duplex connection including multiple simplex communication components, and where bandwidth determining is carried out separately for each simplex component.

25.   (New) A method as in claim 24 where bandwidth comparing is based on the sum of the bandwidth requirements determined for each of the simplex communication components.

26.   (New) A method as in claim 20 where the accepted communication connection includes at least one of point-to-point or point-to-multipoint communication connections.

27.   (New) A method as in claim 20 where the bandwidth requirements are updated in response to accepting a connection or removing a connection.

28.   (New) A method as in claim 24 where bandwidth requirements for duplex connections are determined by evaluating simplex communication components.

29.   (New) A method as in claim 20 which is implemented on a distributed basis.

30.   (New) A connection control method for a ring-type communication system, the method comprising:

    evaluating bandwidth required for a proposed connection;

    evaluating bandwidth required for working and protection traffic on the ring in at least one failure situation;

    accepting the proposed connection only in the presence of adequate excess capacity to support same in the at least one failure situation.

31.   (New) A method as in claim 30 which includes adjusting bandwidth requirements when a connection is dropped.

32.   (New) A method as in claim 31 which includes conducting the evaluating on a distributed basis.

33.   (New) A ring-type communication system comprising:

    a working path and a protection path;

    at least one node coupled to the paths;

    apparatus for accepting a proposed connection only in the presence of adequate bandwidth notwithstanding at least one failure on one of the paths.

34.   (New) A system as in claim 33 where the apparatus comprises, at least in part, an add drop multiplexer at the at least one node.

35.   (New) A system as in claim 33 which includes a plurality of nodes each of which contains an add drop multiplexer where the apparatus is distributed there among.

36.   (New) A device for a communication system comprising:

    at least a first pair of ports for ingress and egress of communications signals from respective links in the system;

    add drop processing structures coupled to the ports for adding and dropping communications associated with the links; and

a connection evaluator coupled to the structures which, at least in part, evaluates bandwidth requirements, if a requested connection is accepted and if a link fails.

37.   (New) A device as in claim 36 which includes first and second pairs of ports coupled to the processing structures for bi-directional communications.

38.   (New) A device as in claim 36 where the evaluator compares the bandwidth requirements to available link bandwidths.

39.   (New) A device as in claim 36 which includes communications related data used by the evaluator in determining if a requested connection should be accepted.

40.   (New) A device as in claim 38 which includes a plurality of displaced processing structures and connection evaluators where at least some of the processing structures include add drop multiplexers.

41.   (New) A device as in claim 40 where the displaced processing structures are linked, via ports and communications links, the links at least during selected time intervals carry substantially duplicate communications information routed in opposite directions.

42.   (New) A device as in claim 36 where the processing structures comprise a node of an optical communication system.

43.   (New) A device as in claim 41 where the displaced processing structures each comprise a four port node of an optical communications system.